

Jessica Mandrick

E90 Topic Selection

I will be working on a concrete shell structure design and construction for my E90 project. I envision this being a decorative and perhaps functional sculpture (up to small pavilion size) placed in a permanent location within the Swarthmore College Arboretum. Elements of the project include a structural design, high strength concrete mix design, development of construction methods, fabrication of formwork, and construction. I will not be working with another senior (due to the lack of civil engineers/engineers in general in the graduating class); however Professor Siddiqui has given Rebecca Burrow permission to assist me with elements of this project as a Directed Reading/Independent Project Credit. Rebecca has taken the necessary structural engineering requirements as a sophomore and is therefore looking for further coursework in the subject. Below is an example picture of a thin-shell concrete structure for those unfamiliar with the building type.



Image Source: University of California Berkeley, Earthquake Engineering Research Center. <http://nisee.berkeley.edu/elibrary/getpkg?id=GoddenE74-80>